

WHAT IS CLAIMED IS:

- 1                   1.       A method of inhibiting programmed cell death in a maize plant  
2 comprising introducing a construct comprising a programmed cell death inducible promoter  
3 operably linked to a nucleotide sequence that inhibits programmed cell death into said plant,  
4 whereby programmed cell death in the lower floret of said plant is inhibited.
- 1                   2.       The method of claim 1, wherein the nucleotide sequence encodes a  
2 plant growth regulator synthesizing enzyme.
- 1                   3.       The method of claim 2, wherein the enzyme catalyzes the synthesis of  
2 cytokinin.
- 1                   4.       The method of claim 3, wherein the enzyme is isopentenyl transferase.
- 1                   5.       The method of claim 1, wherein the programmed cell death inducible  
2 promoter is SAG12.
- 1                   6.       The method of claim 5, wherein the SAG12 promoter is from  
2 *Arabidopsis thaliana*.
- 1                   7.       The method of claim 6, wherein the SAG12 promoter is 70% identical  
2 to SEQ ID NO:1.
- 1                   8.       The method of claim 1, further comprising detecting increased levels  
2 of protein within said plant.
- 1                   9.       The method of claim 1, further comprising detecting increased levels  
2 of oil within said plant.
- 1                   10.      The method of claim 1, further comprising detecting increased levels  
2 of oil and protein within said plant.
- 1                   11.      The method of claim 1, further comprising detecting the presence of a  
2 kernel having multiple embryos.
- 1                   12.      The method of claim 1, wherein the construct is introduced by a type  
2 of sexual cross.

1 13. The method of claim 1, wherein the construct is introduced by  
2 transformation.

1 14. A transgenic maize plant comprising an expression cassette comprising  
2 a programmed cell death -inducible promoter operably linked to a nucleotide sequence  
3 encoding an inhibitor of programmed cell death, the maize plant having kernels with multiple  
4 embryos.

1 15. The transgenic plant of claim 14, wherein the nucleotide sequence  
2 encodes a plant growth regulator synthesizing enzyme.

1 16. The transgenic plant of claim 15, wherein the enzyme catalyzes the  
2 synthesis of cytokinin.

1 17. The transgenic plant of claim 16, wherein the enzyme is isopentenyl  
2 transferase.

1 18. The transgenic plant of claim 14, wherein the programmed cell death  
2 inducible promoter is SAG12.

1 19. A kernel from a transgenic maize plant comprising multiple embryos,  
2 wherein the kernel has increased oil and protein content.

1 20. A method of inhibiting programmed cell death in a maize plant  
2 comprising introducing a promoter from a floret specific gene operably linked to a nucleotide  
3 sequence that inhibits programmed cell death into said plant, whereby programmed cell death  
4 in the lower floret of said plant is inhibited.

1 21. The method of claim 20, wherein the floret specific gene is associated  
2 with programmed cell death.

1 22. The method of claim 20, wherein the floret specific gene is not  
2 associated with programmed cell death

1 23. The method of claim 20, wherein the nucleotide sequence encodes a  
2 plant growth regulator synthesizing enzyme.

1 24. The method of claim 23, wherein the enzyme catalyzes the synthesis of  
2 cytokinin.

1 25. The method of claim 24, wherein the enzyme is isopentenyl  
2 transferase.

1 26. The method of claim 20, further comprising detecting increased levels  
2 of oil and protein within said plant.

1 27. The method of claim 20, further comprising detecting the presence of a  
2 kernel having multiple embryos.

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